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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/834,573

04/12/2001

Robert T. Baum

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02/23/2005

STRAUB & POKOTYLO

620 Tinton Avenue

Bldg. B 2nd Floor

Tinton Falls, NJ 07724-3260

EXAMINER

FOX, JAMAL A


ART UNIT

PAPER NUMBER

2664

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/834,573	Applicant(s)  BAUM ET AL.	
	Examiner Jamal A Fox	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-42 is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 10, 19, 21, 25-27, 31-33, 35-39 and 43 is/are rejected.
- 7) ☒ Claim(s) 5-8, 11-18, 20, 22-24, 28-30 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
6) <input type="checkbox"/> Other: _____. |
|--|--|

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because in Figures 1, 2, 3, 4, 5, 6A, 6B, 7, 7A, 7B, 7C and 31, the text are illegible. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 35 mentioned in the description is not mentioned in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Figure 36 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. U.S. Patent No. 6,765,866, Prior Art Fig. 2B, is the same

as Fig. 36 of the present invention. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 4, 19, 21, 25-27, 38, 39 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Bare (U.S. Patent No. 6,556,541).

Referring to claim 1, Bare discloses for use in an edge device (edge, col. 9 lines 23-38) of a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), a method for processing data (data, col. 10 lines, 60-65), received from a first customer device (Fig. 7, HOST A) via access facilities (Fig. 7 ref. signs 706 and 710), addressed to a second customer device (Fig. 7, HOST B), the method comprising: a) terminating (disabled, col. 4 lines 60-63), with a physical interface (network manager, col. 19 lines 20-25 and 35-40), a link (link, col. 4 lines 60-63) of the access facilities; b) associating at least one logical interface (logical port, col. 76 lines 34-44) with the physical interface (trunk port, col. 76 lines 34-44); c) associating customer context information (multicast addresses, col. 77 lines 1-8) with the logical interface (logical port, col. 77 lines 1-8); and d) upon receiving the data, i) removing (delete, col. 49 lines 19-34) a part of layer 2 address (MAC address, col. 49 lines 19-34), information from the data to generate resulting data, and ii) adding (add packet, col. 49 line 65-col. 50 line 4) the customer context information to the resulting data to generate modified data.

Referring to claim 2, Bare discloses the method of claim 1 wherein the customer context information added (Broadcast Add Packet, col. 47 lines 50-58) to the resulting data is added in the place of the at least a part of the layer 2 address information removed.

Referring to claim 4, Bare discloses the method of claim 1 further comprising saving (storing, col. 35 lines 11-16), in association with the logical interface, layer 2 source address (MAC address, col. 35 lines 11-16) information of the data.

Referring to claim 19, Bare discloses the method of claim 1 wherein the layer 2 address information of the data is part of an Ethernet header (Fig. 4, ref. sign 406), and wherein the customer context information replaces a value in a layer 2 source address field of the Ethernet header.

Referring to claim 21, Bare discloses for use in a system including a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), the transport network including at least two edge devices (Fig. 7, ref. signs 708 and 712), each of the at least two edge devices being accessible to customer devices (Fig. 7 ref. signs 700 and 702) via access facilities (Fig. 7 ref. signs 706 and 710) and having logical interfaces (logical port, col. 77 lines 1-8), each logical interface (logical port, col. 77 lines 1-8) uniquely associated with a customer service (load balancing, col. 77 lines 1-8), a machine readable medium (Fig. 32, ref. sign 3210 and respective portions of the spec.) having stored thereon: a) data received from a first customer device (Fig. 7 ref. sign 700) and addressed to a second customer device (Fig. 7 ref. sign 702); and b) customer context information (multicast addresses, col. 77 lines 1-8) associated with the logical interface (logical port, col. 77 lines 1-8) uniquely associated with the first customer device (Fig. 7 ref. sign 700).

Referring to claim 25, Bare discloses the machine readable medium of claim 21 having stored thereon: carrier information (control and addressing information, col. 1 line 66-col. 2 line 12) used to forward (forwarding, col. 4 lines 25-51) the data, across the transport network (network, col. 9 lines 10-15), to an edge device (switch, col. 4 lines 25-51) associated with the second customer device (Fig. 7 ref. sign 702)

Referring to claim 26, Bare discloses the machine readable medium of claim 25 wherein the carrier information includes an address of the edge device (Source MAC address, Fig. 4) associated with the second customer device (Destination MAC Address, Fig. 4), and wherein the address of the edge device is based on the address of the second customer device (Destination MAC Address, Fig. 4) and at least a part of the customer context information (AUTH. DATA, Fig. 4).

Referring to claim 27, Bare discloses for use at an edge device (edge, col. 9 lines 23-38) of a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), the edge device serving customer devices (Fig. 7 ref. signs 700 and 702) coupled via access facilities (Fig. 7 ref. signs 706 and 710), a method for maintaining carrier information table (table, col. 12 lines 25-27), the method comprising: a) terminating (disabled, col. 4 lines 60-63), with a physical interface (network manager, col. 19 lines 20-25 and 35-40), a link (link, col. 4 lines 60-63) of the access facilities; b) associating at least one logical interface (logical port, col. 76 lines 34-44) with the physical interface (trunk port, col. 76 lines 34-44); c) associating customer context information (multicast addresses, col. 77 lines 1-8) with the logical interface (logical port, col. 77 lines 1-8); d) upon receiving data from a customer device, adding (add packet, col. 49 line 65-col. 50 line 4) the customer context information to generate modified data; e) if the data received from the customer device is an address advertisement, then forwarding (forward, col. 54 lines 48-54 and col. 59 lines 58-63) the modified data to an edge information update facility; and f) if a table is received from the edge information update

facility, then updating (update, col. 24 lines 45-50, col. 35 lines 17-25, col. 54 lines 48-54 and col. 59 lines 58-63) a carrier information table.

Referring to claim 38, Bare discloses for use in a system including a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), the transport network including at least two edge devices (Fig. 7, ref. signs 708 and 712), each of the at least two edge devices being accessible to customer devices (Fig. 7 ref. signs 700 and 702) via access facilities (Fig. 7 ref. signs 706 and 710) and having logical interfaces (logical port, col. 76 lines 34-44), each logical interface (logical port, col. 77 lines 1-8) uniquely associated with a customer device and having associated customer context information (multicast addresses, col. 77 lines 1-8), in an edge information update facility, a method for determining and signaling carrier information updates (updates, col. 9 line 65-col. 10 line 11 and col. 27 lines 35-41), the method comprising: a) accepting an address advertisement, including customer context information and encapsulated (Fig. 23, ref. sign 2304) in carrier information; b) removing (delete, col. 49 lines 19-34) the carrier information; c) if the address advertisement constitutes new and changed information, updating (update, col. 24 lines 45-50, col. 35 lines 17-25, col. 54 lines 48-54 and col. 59 lines 58-63) edge information for the transport network; and d) disseminating (propagate, col. 51 line 63-col. 53 line 2) carrier information to each of the at least two edge devices (Fig. 7, ref. signs 708 and 712).

Referring to claim 39, Bare discloses for use in an edge device (edge, col. 9 lines 23-38) of a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), an aggregation unit (Fig. 32 ref. sign 3200 and respective portions of the spec.) for

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processing data, received from a first customer device (Fig. 7 ref. sign 700) via access facilities (Fig. 7 ref. signs 706 and 710), addressed to a second customer device (Fig. 7 ref. sign 702), the aggregation unit comprising: a) a physical interface (Fig. 32, ref. signs 3218 and 3236) for terminating a link of the access facilities; b) at least one logical interface (logical port, col. 76 lines 34-44) associated with the physical interface (trunk port, col. 76 lines 34-44); c) a storage device (Fig. 32, ref. sign 3210) for storing customer context information associated with the logical interface; and d) means for (Fig. 32, CPU), upon receiving the data, i) removing (delete, col. 49 lines 19-34) at least a part of layer 2 address information from the data to generate resulting data, and ii) adding (add packet, col. 49 line 65-col. 50 line 4) the customer context information to the resulting data to generate modified data.

Referring to claim 43, Bare discloses for use in a system including a transport network (network, col. 8 lines 40-50 and col. 9 lines 10-15), the transport network including at least two edge devices (Fig. 7, ref. signs 708 and 712), each of the at least two edge devices being accessible to customer devices (Fig. 7 ref. signs 700 and 702) via access facilities (Fig. 7 ref. signs 706 and 710) and having logical interfaces (logical port, col. 76 lines 34-44), each logical interface (logical port, col. 77 lines 1-8) uniquely associated with a customer device (Fig. 7 ref. signs 700 and 702) and having associated customer context information (MAC addresses, col. 54 lines 48-54 and col. 59 lines 58-63), in a route update facility (table, col. 54 lines 48-54 and col. 59 lines 58-63), and edge information update facility (table, col. 24 lines 45-50 and col. 35 lines 17-25) comprising: a) an input facility (Fig. 32 ref signs 3218 and 3236) for accepting an

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address advertisement, including customer context information and encapsulated in carrier information (Fig. 23, ref. sign 2304); b) means (Fig. 32, CPU) for removing (delete, col. 49 lines 19-34) the carrier information; c) means, (Fig. 32, ref. sign 3210) if the address advertisement constitutes new and changed information, for updating edge information for the transport network; and d) a signaling facility (switch control 3204, Fig. 32) for disseminating (propagate, col. 51 line 63-col. 53 line 2) carrier information to each of the at least two edge devices (Fig. 7, ref. signs 708 and 712).

6. Claims 1, 9, 10 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nikolich et al. (U.S. Patent No. 6,826,195).

Referring to claim 1, Nikolich et al. discloses for use in an edge device (Hub, Fig. 5) of a transport network (Internet, Fig. 5), a method for processing data (processing, col. 2 lines 5-10, col. 5 lines 28-37 and col. 6 lines 30-35), received from a first customer device (Fig. 14 ref. sign 558) via access facilities (Fig. 14, ref. signs 554, 556 and 560), addressed to a second customer device (Fig. 14, ref. sign 572), the method comprising: a) terminating (removed, col. 10 lines 31-45), with a physical interface (MCC, col. 10 lines 31-45), a link (channel, col. 10 lines 35-45) of the access facilities; b) associating at least one logical interface (logical port, col. 6 lines 16-26) with the physical interface (stack/entity, col. 6 lines 20-26); c) associating customer context information (field, col. 6 lines 15-20) with the logical interface (logical port, col. 6 lines 15-20); and d) upon receiving the data, i) removing (removed, col. 6 line 65) a part of layer 2 address (Ethernet header, col. 6 line 65), information from the data to generate resulting data,

and ii) adding (added, col. 6 line 65) the customer context information to the resulting data to generate modified data (data packet, col. 6 line 66).

Referring to claim 9, Nikolich et al. discloses the method of claim 1 wherein at least a portion of the customer context information identifies a class of service (class of service, col. 3 lines 25-30 and col. 8 lines 21-32) level.

Referring to claim 10, Nikolich et al. discloses the method of claim 1 wherein at least a portion of the customer context information identifies a quality of service (quality of service, col. 3 lines 25-30 and col. 8 lines 21-32) level.

Referring to claim 19, Nikolich et al. discloses the method of claim 1 wherein the layer 2 information of the data is part of an Ethernet header (Ethernet header, col. 6 lines 53-col. 7 line 4), and wherein the customer context information (BAS header, col. 6 line 65-col. 7 line 4) replaces a value in a layer 2 source address field of the Ethernet header.

7. Claims 31-33, 35 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Rao et al. (U.S. Patent No.6,850,531).

Referring to claim 31, Rao et al. discloses for use in a system including a transport network (network, col. 2 lines 8-26 and col. 4 lines 55-63), the transport network including at least two edge devices (LCPU and RCPU, Fig. 2 and respective portions of the spec.), each of the at least two edge devices (Figure 2 ref. sign 22b and ref. sign 22a) being accessible to customer devices via access facilities and having logical interfaces (LPI, Fig. 4, col. 11 lines 51-58 and col. 26 lines 23-30), each logical interface uniquely associated with a customer device (physical port, col. 11 lines 51-58)

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and having associated customer context information (IP parameters, col. 11 lines 51-58), a machine readable medium (IP cache, col. 2 lines 23-26 and col. 12 lines 8-15) having stored thereon a customer context-based forwarding table (forwarding table, Fig. 6, col. 2 lines 23-26 and col. 12 lines 8-15) the customer context-based forwarding table comprising a plurality of entries (entries, Fig. 6), each of the entries including: a) carrier information (Fig. 6, Flags); and b) at least a part of a layer 3 destination address (Fig. 6, Destination and col. 12 lines 55-59) and at least a part of customer-based context information (Nexthop, Fig. 6).

Referring to claim 32, Rao et al. discloses the machine readable medium of claim 31, wherein devices of different customers (see VPN-ID, Fig. 18) can have the same (see Source-Addr, Fig. 18) layer 3 address, such devices being uniquely addressable based on at least a part of their layer 3 address and at least a part of customer-based context information.

Referring to claim 33, Rao et al. discloses the machine readable medium of claim 31 wherein the at least a part of customer-based context information includes information for uniquely identifying (ID, Fig. 18) a customer.

Referring to claim 35, Rao et al. discloses the machine readable medium of claim 33, wherein the at least a part of customer-based context information further includes information for uniquely identifying a host (host, col. 21 lines 27-33) of a given customer.

Referring to claim 37, Rao et al. discloses the machine readable medium of claim 31 further comprising: c) a layer 3 address (Source-Addr, Fig. 18) of an egress edge device.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bare.

Referring to claim 3, Bare discloses the method of claim 1 further comprising aggregating (col. 11 lines 14-24) and trunking (trunking, col. 5 lines 30-35) on a shared network facing, communications link (communication link, col. 5 lines 30-35), but fails to explicitly teach of aggregating the modified data at the logical interface with other modified data at the other logical interfaces. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have included aggregating the modified data at the logical interface with other modified data at the other logical interfaces because the data is broadcasted to other switches via the communications link as suggested by Bares' broadcast packets.

10. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. in view of Li.

Referring to claim 36, Rao et al. discloses a machine readable medium of claim 35 wherein the information for uniquely identifying a host of a given customer, but fails to explicitly teach of the information being an VPN-Index. However, Rao et al. discloses a VPN ID (VPN-ID, Fig. 18 and respective portions of the spec.). Li discloses a VPN

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Index in (col. 5 lines 39-59). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included the VPN Index of Li to the invention of Rao et al. in order to classify and categorize dial-up connections as suggested by Rao et al. Additionally, Li discloses that the VPN identifier is also referred to as a VPN Index (col. 5 lines 40-45). Therefore, Rao et al. discloses a VPN-Index because Li teaches that the VPN ID is another name for VPN-Index.

Allowable Subject Matter

11. Claims 40-42 are allowed.

12. Claims 5-8, 11-18, 20, 22-24, 28-30 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA. 22202, Sixth Floor (Receptionist).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamal A. Fox whose telephone number is (571) 272-3143. The examiner can normally be reached on Monday-Friday 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

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Jamal A. Fox
Jamal A. Fox

WMB